FPA-1000-UL Analog Addressable Fire Panel

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Invented for life

▶ Support for up to 508 points on two analog addressable loops

▶ Built-in Ethernet connector for web-browser based programming and ConettixIP Alarm-over-IP communication

▶ Carbon Monoxide Detector (gas) support meets NFPA 720 (2009) requirements for visual and audible annunciation

▶ Auto-Learn mode for easy provisioning

▶ On-line help and off-line programming capability provide simple configuration and service

The FPA-1000-UL Analog Addressable Fire Panel is an advanced analog control panel for small to medium facilities in commercial or public building applications. The FPA-1000-UL combines complete built-in Fire Alarm Control Panel (FACP) equipment such as Notification Appliance Circuits (NACs), Signaling Line Circuits (SLCs), relays, power supply, Digital Alarm Communicator Transmitter (DACT), and Ethernet connection with expandability using the option bus or plug-in boards. The two integrated NACs can be expanded with remote addressable NAC power boosters and programmed with specific activation patterns. The standard control panel includes one SLC that supports 254 addressable points (254 analog detectors or modules, or 127 analog sounder bases in combination with a suitable detector). The control panel is easily expandable with the FPE-1000-SLC Signaling Line Circuit Plug-in Module, doubling the address points to 508.
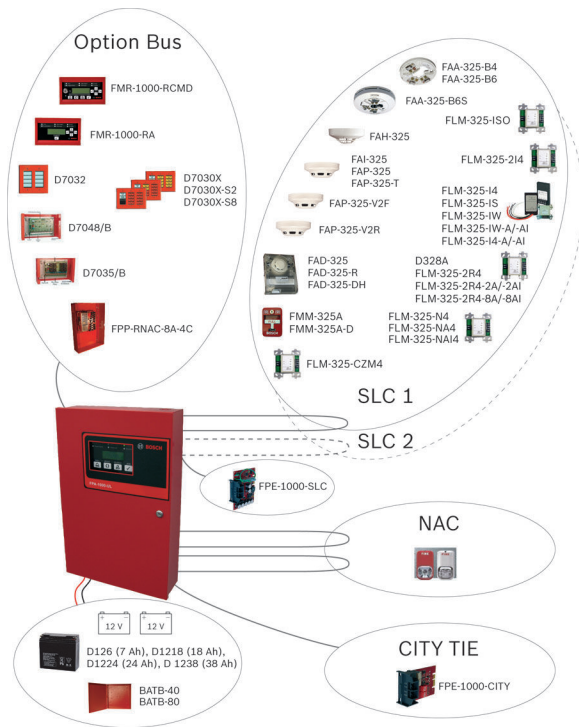
The panel has a compact and solid metal housing with a keyed lock and a removable dead front door to access electronics. It features surface and semi-flush mounting options. On the front of the panel, six light-emitting diodes (LEDs) show Fire, Carbon Monoxide (Gas) Alarm, Power, Supervisory, Silenced, and Trouble conditions. The built-in keypad can be used for total system control and programming even when wearing fireman gloves. In addition, a large 4-line by 20-character alphanumeric LCD display shows programmed device point information. Four keys enable Drill, Reset, Silence, and Acknowledge functions. The FPA-1000-UL enables various programming approaches:

- Front panel programming
- On-site programming, using a laptop with the possibility of pre-programming at the office
- Off-site programming, with remote access via Ethernet (browser-based).

Front panel programming provides an auto-learn function, allowing the installer to configure the system quickly and easily in default mode. Using a local laptop or remote access communication, the programming is carried out by means of a browser-based user interface. Therefore, no software installation is required. The panel can receive diagnostics from a Web browser running on a networked PC.

System Overview

Functions

Communications

The FPA-1000-UL has a dual phone line PSTN/DACT circuit and an Ethernet connection featuring Conettix IP reporting. The panel communicates in Contact ID, SIA, and Modem IIIa[2]. The panel provides miscellaneous reporting functions such as dialing control and transmission supervision, priorities of report groups, routing to destinations, manual and auto test reports, and Anti-Replay feature.

For the primary and secondary account, the following features are programmable:

- Two different phone or IP numbers
- Different dialing types for PSTN (pulse only, tone and pulse, or tone only)
- Individual PSTN line supervision (audible and visual trouble signal in the case of a transmission path failure)
- Selectable options for Report Steering Groups
- Programmable acknowledge wait time for each IP reporting Conettix account (15 sec up to 255 sec)
- Test call frequency individually programmable for each account (4, 12, 24 hour, 7 and 28 day intervals, standard frequency 24 hour)

With modem function, it is possible to program the control panel remotely (upload a new parameter file to the panel from a remote station).

Notification Appliance Circuits (NACs)

Two Class A Style Z or Class B Style Y NACs provide up to 4 A of 24 V power (non-synchronized: 2.5 A per NAC; synchronized: 2.75 A NAC 1 + NAC 2 in total) to operate horns, strobes, bells, and other notification appliances. Each NAC can be programmed to provide Temporal Code 4, Temporal Code 3, and steady, pulsing, and synchronized protocol output for Wheelock, Gentex, and System Sensor notification appliances.

Option Bus

On the Option Bus, the FPA-1000-UL supports:

- up to eight FMR-1000-RCMD Remote Command Centers and FMR-1000-RA Remote Annunciators in any combination
- up to eight D7030X Series LED Annunciators with eight LED zones each,
- up to eight D7030X Series/D7032 combinations
- up to two Octal Relay Modules or Octal Driver Modules.

The outputs of the Octal Relay Modules or Octal Driver Modules are fully programmable, and can be activated by system events. These outputs have the same programming options as the local relays. Each output operates independently of the other seven to provide complete flexibility. Communication with the D7035/B or D7048/B is supervised.

Power

A transformer working with 120 VAC or 240 VAC is supplied standard with the control panel. Two backup batteries with 7 Ah to 18 Ah each fit inside the fire panel cabinet. A separate battery box can provide higher capacity.

The FPA-1000-UL provides two auxiliary power supplies (one FWR and one DC) with 0.5 A at 24 V each, with switchable AUX/RST. This auxiliary power can run expansion boards or other low current auxiliary devices.

For installations requiring battery capacity higher than 40 Ah, a regulated and UL1481 Listed external power supply can be used. The external power supplies connect through the panel's battery terminals and are supervised for AC and battery fault by an input module on the SLC.

The FPP-RNAC-8A-4C Remote NAC Booster adds four additional Notification Appliance Circuits (NFPA 72, Class A Style Z or Class B Style Y) to the fire panel or serves as a power supply for fire protective signaling systems. This regulated power supply provides up to 6 A of power that is used to recharge batteries and operate continuous and intermittent alarm loads. This 6 A of power can be distributed through the four NAC Power Supply circuits that are part of the FPP-RNAC-8A-4C. The FPP-RNAC-8A-4C is UL Listed for use in commercial fire alarm applications.

Signaling Line Circuits (SLCs)

The FPA-1000-UL Fire Panel uses the patented DCP Digital Communication Protocol to communicate with each of the analog addressable devices located on the SLCs. This fast and reliable protocol allows the use of standard non-twisted, non-shielded wiring for the SLCs. The FPA-1000-UL supports two Class B, Style 4 or one Class A, Style 6 or 7 per SLC.

Certifications and Approvals

Region	Certification	
USA	UL	FSZI: Emergency Alarm System Control Units (ANSI/UL 2017) and UOJZ: Control Units, System (ANSI/UL 864, 9th edition)
Canada	IC	1249A-FPA1000
USA	FCC	ESVAL00BFPA1000
	CSFM	7165-1615:0229
	FDNY-CoA	6034
	FM	Signaling Systems - Central Station, Local Protective, Proprietary, and Remote Station [FPA-1000-UL]

Installation/Configuration Notes

Mounting Considerations
The cabinet can be either semi-flush (requires optional FPM-1000-SFMK Semi-flush Mounting Kit) or surface mounted.
Depending on the configuration and the battery selection, the FPA-1000-UL can be quite heavy. When attaching the enclosure to a surface, use mounting hardware (not supplied) capable of supporting this weight, and reinforce the wall as necessary.

Wiring Considerations
The length of wire allowed between the control panel and the last device on a wiring run depends on the current drawn on that wiring run. Reducing the number of devices on a wiring run allows the individual runs to be longer.
If not specified, use wire gauge 12 AWG to 18 AWG (3.3 mm^2 to 0.8 mm^2).

> **i** **Notice**
> Shared cable is not recommended for the Option Bus, addressable-points bus, telephone, or NAC wiring. Do not run wiring for NAC, Option Bus, and SLC in the same conduit. Avoid shielded or twisted-pair wire except for special applications where a reduced length of wiring (roughly 50%) is acceptable for tolerating a harsh electrical environment.

Point Capacity/Configuration
The FPA-1000-UL supports up to 508 addresses, 254 per loop. For addresses above 127 on each loop, only the FAA-325-B6S Sounder base, FAP-325-V2F Smoke Detector, FLM-325-I4-A and FLM-325-I4-AI Contact Monitors, FLM-325-NA4 and FLM-325-NAI4 Supervised Output Modules, FLM-325-2R4-2AI 2 A Dual Relay Module, and FLM-325-2R4-8A and FLM-325-2R4-8AI 8 A Dual Relay Modules can be used. For systems requiring more than 127 points per loop, use these devices on addresses above 127 and other devices below address 127.

Parts Included

Quant.	Component
1	FPA-1000-UL main board
1	Enclosure with transformer
1	Enclosure lock and two keys[1] (replacement key: D102)
1	FPE-1000-SLC signaling line circuit module
1	Hardware pack
3	Wiring labels (one each in English, Spanish, and Portuguese)
2	2.21 kΩ EOL resistors (replacement resistors: EOL-2.2K, 8 per package)
	Tabs with different language versions for LED and key text
	Literature (one of each document type in English, Spanish, and Portuguese) • Installation and Operation Guide • Operating Instruction Sheet • Program Record Sheet • Release Note

[1] Key code stamped on both lock and key

Technical Specifications

Electrical

Power supply (primary)

Current:	120 VAC: 2 A maximum 240 VAC: 1 A maximum
Voltage:	120 VAC, 60 Hz or 240 VAC, 50 Hz

Power supply (secondary)

Current (Alarm)	• Panel < 0.240 A • SLC = 0.63 A maximum
Current (load):	Standby: < 1.25 A Alarm: 4 A Shared maximum • NAC 1 = 2.5 A maximum • NAC 2 = 2.5 A maximum • AUX/FWR = 0.5 A maximum • AUX/RST = 0.5 A maximum • Option bus = 0.5 A maximum
Voltage:	24 VDC

Batteries

Voltage:	2 x 12 VDC in series
Capacities:	maximum 40 Ah • in cabinet: 7 Ah to 18 Ah • in additional battery box: 24 Ah to 40 Ah
Fuses	15 A blade type

Auxiliary power supply (AUX)

AUX/FWR:	0.5 A at 24 V FWR Non-switched, power-limited, unfiltered, unsupervised
AUX/RST:	0.5 A at 24 VDC Switched, power-limited, filtered, unsupervised

Environmental

Environment:	Indoor, dry
Protection Class:	IP 30
Relative Humidity:	Up to 95%, non-condensing
Temperature (operating):	+32°F to +120°F (0°C to +49°C)
Temperature (storage):	+14°F to +131°F (-10°C to +55°C)

Mechanical

Operating Elements	
LCD:	4-line x 20-character display, backlit
LEDs:	Six total: Fire, Gas Alarm, Power, Supervisory, Silenced, and Trouble
Operation Keys:	Drill, Reset, Silence, and Acknowledge
Alphanumeric Keypad:	12 alphanumeric keys, escape, enter, and navigation buttons (left, right, up, down)

Interfaces	
PSTN/DACT:	2 lines, RJ45
Ethernet	1 x RJ45

Wiring	
Cable Entries:	Double knock-outs (3/4, 1/2 in)
Connections:	Pluggable terminal blocks for AUX, Option Bus, SLC, NAC, Main Board Relays
Wire Gauge:	12 AWG to 18 AWG (0.75 mm^2 to 3.25 mm^2)

Enclosure	
Material:	Cold rolled steel, 19 gauge (1.2 mm)
Color:	Red
Dimensions (W x H x D):	14.5 in. x 4.3 in. x 22.7 in. (36.8 cm x 10.9 cm x 57.7 cm)
Dimensions with trim ring (W x D): Semi-flush mounted (H recessed / H flush):	17.5 in. x 25.6 in. (44.5 cm x 65.0 cm) 3.25 in. / 1.05 in. (8.25 cm / 2.7 cm)
Weight:	18.1 lb (8.32 kg)

Ordering Information

FPA-1000-UL Analog/Addressable Fire Panel UL
FPA-1000-UL Analog/Addressable Fire Panel with enclosure and transformer
Order number **FPA-1000-UL**

FPA-1000-LC Analog Addressable Fire Panel Less Enclosure
FPA-1000-UL Analog Addressable Fire Panel without enclosure
Order number **FPA-1000-LC**

D7030X-S2 LED Annunciator
Two LEDs indicate supervisory conditions; six indicate alarm conditions.
Order number **D7030X-S2**

D7030X-S8 LED Annunciator
All eight zone LEDs indicate supervisory conditions.
Order number **D7030X-S8**

D7035 Octal Relay Module
Provide eight Form C relay outputs (w/o enclosure) for the D7024, FPD-7024, or FPA-1000 Fire Alarm Control Panels (FACP)
Order number **D7035**

D7035B Octal Relay Module with Enclosure
Provide eight Form C relay outputs (w/ enclosure) for the D7024, FPD-7024, or FPA-1000 Fire Alarm Control Panels (FACP)
Order number **D7035B**

D7048 Octal Driver Module
Module and hardware
Order number **D7048**

D7048B Octal Driver Module with Fire Enclosure
Module, mounting plate, metal enclosure, and hardware
Order number **D7048B**

FAA-325-B4 4-inch Analog Sensor Base
Is combined with analog addressable detectors that use the advanced digital communication protocol to provide early fire warning for life safety and property protection
Order number **FAA-325-B4**

FAA-325-B6S Analog Sounder Base
Contains an addressable sounder which provides an audible alarm in the immediate vicinity and only works in combination with one of the FAH-325, FAI-325, or FAP-325 series analog sensors
Order number **FAA-325-B6S**

FAD-325 Analog Duct Detector
Housing for use in heating, ventilation and air conditioning systems (HVAC) that comes with an FAD-325-DH Analog Duct Smoke Detector Replacement
Order number **FAD-325**

FAD-325-R Analog Duct Detector with Relay
Housing with two Form C alarm contacts for use in heating, ventilation and air conditioning systems (HVAC) that comes with an FAD-325-DH Analog Duct Smoke Detector Replacement. **US sales only!**
Order number **FAD-325-R**

FAH-325 Analog Heat Detector
Used in indoor environments with high ambient temperatures such as kitchens, boiler rooms, or drying rooms; compatible with 127 addresses
Order number **FAH-325**

FAI-325 Analog Ionization Smoke Detector
For early warning of trouble from superheated or flaming combustibles where outside RFI and other electrical interference is expected. **US sales only!**
Order number **FAI-325**

FMM-325A Single-action Manual Station
Communicates with the FPA-1000 Analog Addressable Fire Panels, D9024, D8024, and D10024A FACPs (both power and data) over a two-wire polling circuit
Order number **FMM-325A**

FMM-325A-D Double-action Manual Station
Communicates with the FPA-1000 Analog Addressable Fire Panels, D9024, D8024, and D10024A FACPs (both power and data) over a two-wire polling circuit
Order number **FMM-325A-D**

Accessories

FMR-1000-RA Remote Annunciator
LCD annunciator without system control capability for use with the FPA-1000 Analog Addressable Fire Panels
Order number **FMR-1000-RA**

FMR-1000-RCMD Remote Command Center
LCD annunciator with system control capability for use with FPA-1000 Analog Addressable fire Panels
Order number **FMR-1000-RCMD**

FPE-1000-CITY City Tie Plug-in Module
Provides the FPA-1000 Analog Addressable Fire Panels with two supervised City Tie Local Energy circuits or Reverse Polarity circuits
Order number **FPE-1000-CITY**

FPE-1000-SLC Signaling Line Circuit Plug-in Module
Provides a Signaling Line Circuit (SLC) for connection of analog devices to the FPA-1000 Analog Addressable Fire Panels
Order number **FPE-1000-SLC**

FPM-1000-ENC Enclosure with Dead Front Door
Enclosure with dead front door
Order number **FPM-1000-ENC**

D5070 Analog Device Programmer
Programs address settings on EEPROM-programmable analog devices
Order number **D5070**

D7030X LED Annunciator
Eight zone LEDs indicate alarm conditions.
Order number **D7030X**

D7032 Eight-zone LED Annunciator Expander
Use with D7030X Series LED Annunciators
Order number **D7032**

FAA-325-2.5 Sampling Tube (2.5 ft)
2.5 ft (762 mm) long sample tube for use with the FAD-325 and FAD-325-R Analog Duct Detectors
Order number **FAA-325-2.5**

FAA-325-5 Sampling Tube (5 ft)
5 ft (1.52 m) long sample tube for use with the FAD-325 and FAD-325-R Analog Duct Detectors
Order number **FAA-325-5**

FAA-325-10 Sampling Tube (10 ft)
10 ft (3.05 m) long sample tube for use with the FAD-325 and FAD-325-R Analog Duct Detectors
Order number **FAA-325-10**

FAA-325-B6 6-inch Analog Sensor Base
6-inch (152.4 mm) base for FAH-325, FAI-325, and FAP-325 sensors. **US sales only!**
Order number **FAA-325-B6**

FAD-325-DH Analog Duct Smoke Detector Replacement Head
Replacement detector for the FAD-325 and the FAD-325-DH Analog Duct Smoke Detectors for use in heating, ventilation, and air conditioning systems
Order number **FAD-325-DH**

FLM-325-2I4 Dual Input Monitor
Provides two independent contact monitoring circuits to monitor Normally Open (NO) or Normally Closed (NC) dry contact types of fire alarm devices
Order number **FLM-325-2I4**

FLM-325-2R4 Dual Relay Module
Provides two independently-controlled Form C contacts for a variety of Normally Open and Normally Closed applications
Order number **FLM-325-2R4**

FLM-325-CZM4 Conventional Zone Module
Enables the FACP to interface and monitor up to 25 conventional devices depending on the device type such as two-wire smoke detectors or pull stations
Order number **FLM-325-CZM4**

FLM-325-I4 Contact Monitor 4-inch
Mounted to a cover plate for a 4-inch square or double gang electrical back box; a bi-colored LED provides module status; compatible with 127 addresses
Order number **FLM-325-I4**

FLM-325-ISO Short Circuit Isolator
Isolates a shorted section on a specific polling circuit
from the rest of the system to minimize the loss of
communication
Order number **FLM-325-ISO**